

# Leading by Example Council Meeting

March 23, 2017

# Agenda



- **Welcome & Introductions**
  - **Framingham State Energy & Sustainability Overview**
- **Commonwealth Updates**
- **Solar Updates**
- **Better Buildings Challenge Swap Video**
- **LBE Updates**
- **Upcoming Meetings/Events/Conferences**

# Leading by Example Council Meeting

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*Welcome to FSC!*



**Framingham**  

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State University

March 23<sup>rd</sup>, 2017



**Framingham State University** was founded in 1839 as the nation's first **public university** for the education of teachers. Since that time, it has evolved into a vibrant, comprehensive liberal arts institution offering small, personalized classes on a beautiful New England campus.

Today, the University enrolls more than 6,000 students with 58 undergraduate and graduate degree programs in the arts, humanities, sciences, social sciences and professional fields.

The campus consists of 27 academic buildings and 7 residence halls housing 2,000 students, plus a satellite conference center located in Ashland. Total campus land area is 143 acres. Total building area is 1,500,000 square feet.

As a State College and University (SCU), Framingham State prides itself on quality academic programs, affordability, and commitment to access for all qualified students.



# The “Climate” at FSU

The University has been recognized as a **Green College** by **The Princeton Review** several years in a row. FSU’s efforts to “go green” are guided by our Climate Action Plan, with input from the Student Green Team and other members of the Faculty and Staff.

FSU offers two environmental study majors.

- Environmental Science and Policy and one in
- Environmental Studies and Sustainability.

Since 2007, FSU has successfully raised the percentage of its energy generated by renewable sources from 1 percent to nearly 20 percent. In 2012, the University converted its power plant from number 6 fuel oil to natural gas, a move that reduced our carbon footprint by 30 percent.



Framingham  
State University

# North Hall



Built in 2012 by the MSCBA to house 400 students.  
Receive LEED Gold status.



Framingham  
State University

# West Hall



Built in 2016 by the MSCBA to house  
310 students.  
Expecting to receive LEED Silver status.



Framingham  
State University

# Hemenway Laboratory Academic Building



Built in 2015 by DCAMM.

LEED Silver expected.

Contains 48 filtered ductless fume hoods in 16 teaching biology and chemistry labs.

# Commonwealth Updates

*Creating A Clean, Affordable and Resilient Energy Future For the Commonwealth*

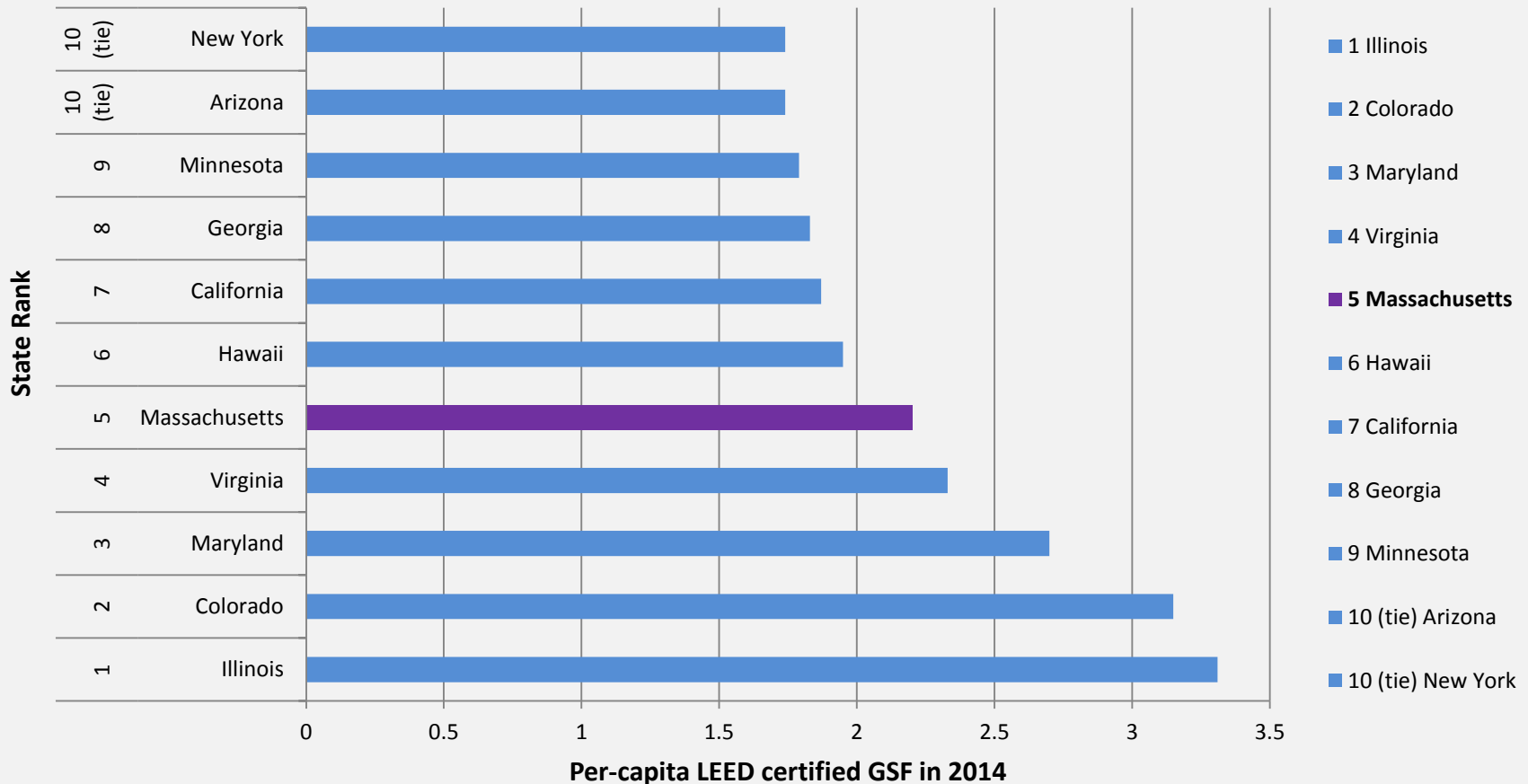


Massachusetts Department  
of Energy Resources

# National LEED Ranking

## 2014

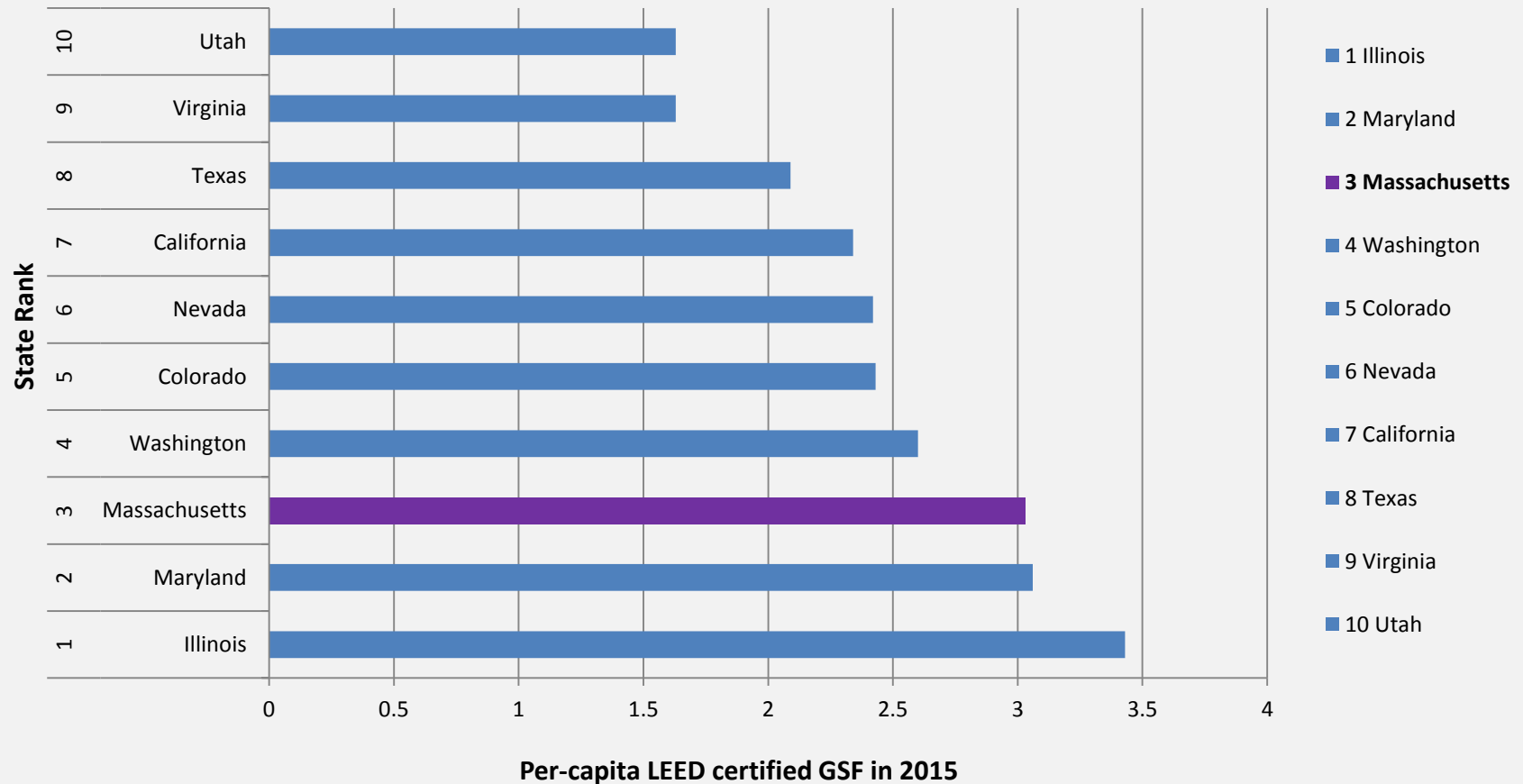
### LEED Certified Square Feet Per-capita



# National LEED Ranking

## 2015

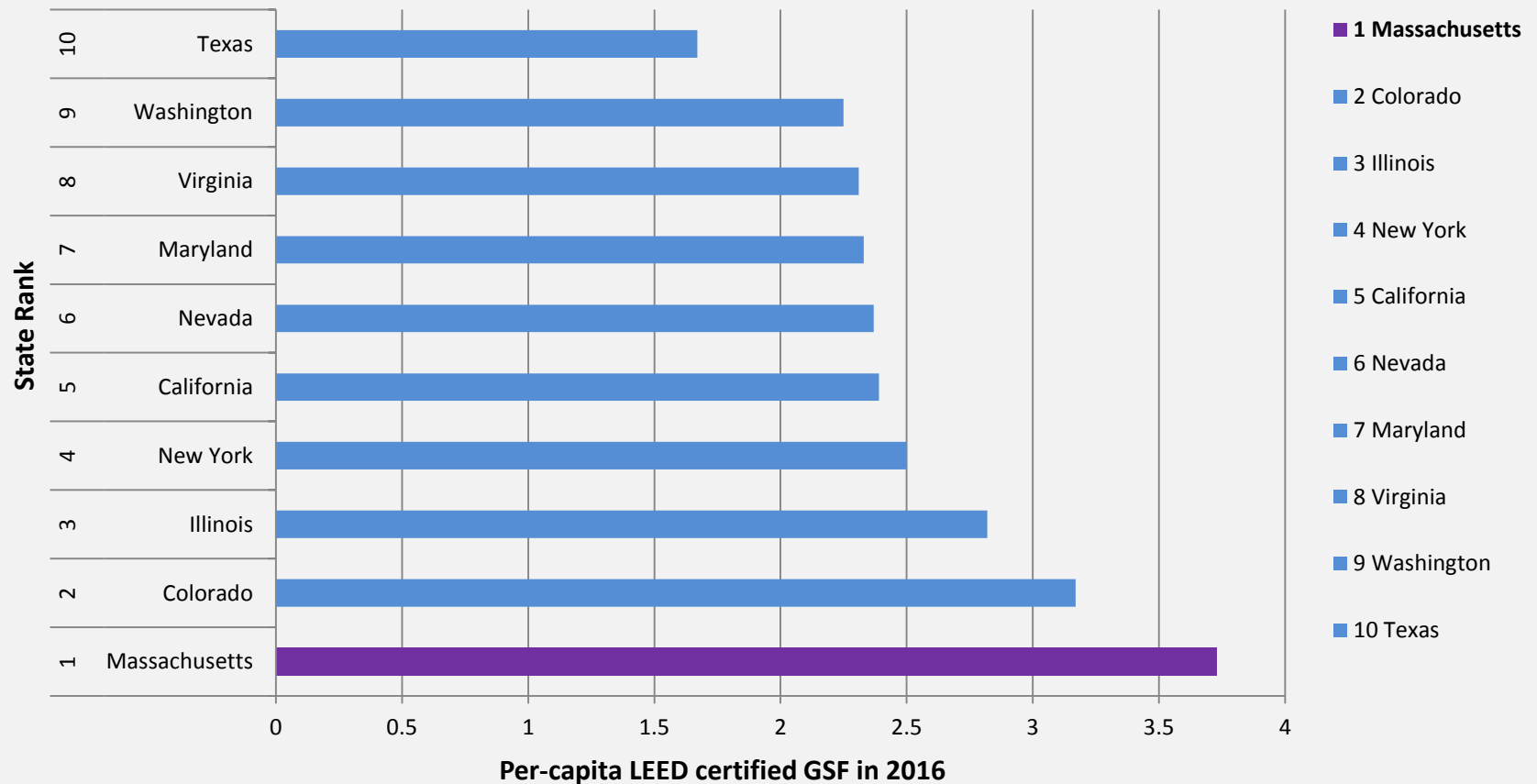
### LEED Certified Square Feet Per-capita



# National LEED Ranking

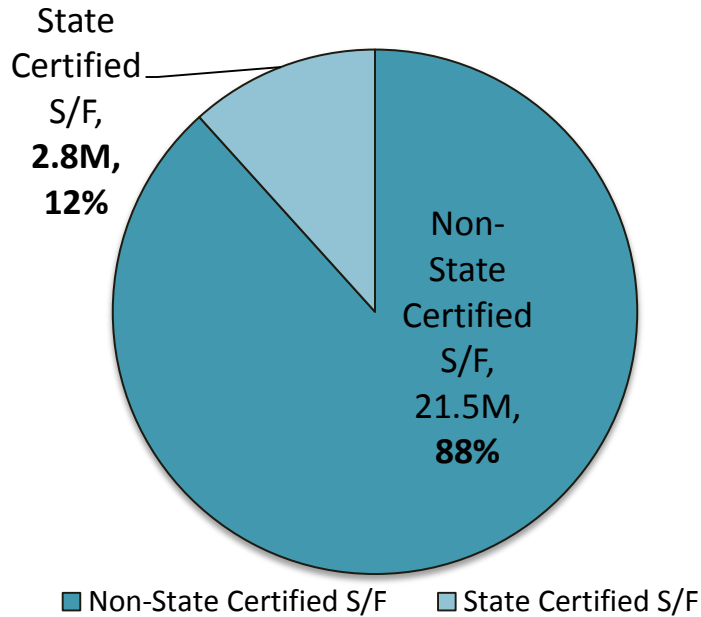
## 2016

### LEED Certified Square Feet Per-capita

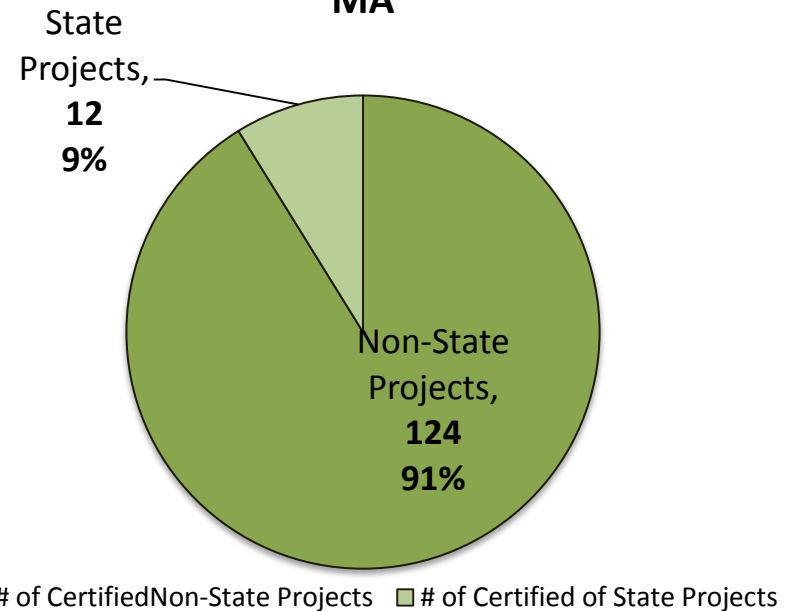


# Commonwealth Wide LEED Stats - 2016

**LEED Certified Square Footage in MA**



**Number of Certified LEED Projects in MA**



Construction Organization	Agency	Project Name	Cert Level	SF
DCAMM	Department of Correction	Western MA Regional Women's Correctional Center	Gold	28,477
DCAMM	Massachusetts College of Liberal Arts	Feigenbaum Center for Science and Innovation	Gold	66,793
MCCA	Massachusetts Convention Center Authority	Boston Convention Center & Exhibition Center	Silver	1,779,000
DCAMM	Massachusetts Maritime Academy	MMA Library Modernization	Platinum	41,741
MSCBA	Salem State University	Salem State Gassett Fitness Center	Silver	46,790
MSCBA	Salem State University	Viking Hall	Gold	103,803
UMass Building Authority	UMass Amherst	Lincoln Campus Center Dining Renovation	Gold	35,095
DCAMM	UMass Amherst	Integrative Learning Center	Gold	172,970
DCAMM	UMass Boston	Integrated Sciences Complex	Gold	229,450
DCAMM	UMass Lowell	Health and Social Sciences Bldg	Silver	69,000
UMass Building Authority	UMass Lowell	University Crossing	Silver	227,691
UMass Building Authority	UMass Lowell	McGauvran Dining Hall	Silver	49,875

# New Green Communities Designated

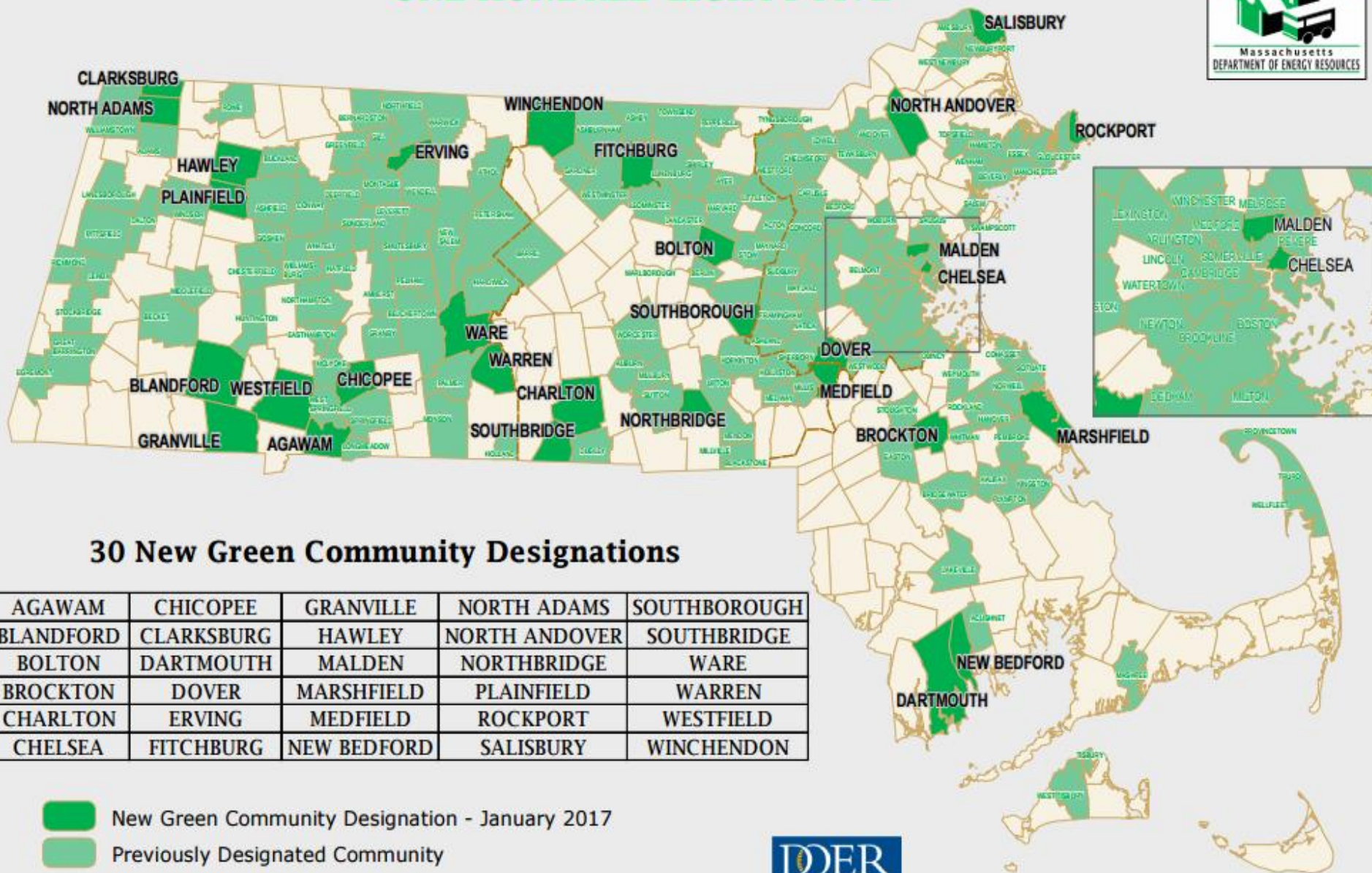
- 30 new cities and towns designated in February
  - \$6.4 million in designation grants
- 185 Green Communities, home to 64% of the Commonwealth's population
- Since 2010, DOER has awarded over \$65M in designation and competitive Green Communities grant funding

[Press Release](#)

## Designation Grants

Municipality	Award
Agawam	\$207,970
Blandford	\$138,425
Bolton	\$141,060
Brockton	\$526,000
Charlton	\$166,570
Chelsea	\$312,460
Chicopee	\$367,160
Clarksburg	\$141,590
Dartmouth	\$223,750
Dover	\$137,145
Erving	\$142,905
Fitchburg	\$306,265
Granville	\$139,280
Hawley	\$136,920
Malden	\$332,540
Marshfield	\$182,720
Medfield	\$146,815
New Bedford	\$604,305
North Adams	\$194,580
North Andover	\$169,390
Northbridge	\$176,515
Plainfield	\$137,575
Rockport	\$148,670
Salisbury	\$160,695
Southborough	\$142,865
Southbridge	\$206,130
Ware	\$169,535
Warren	\$157,740
Westfield	\$266,565
Winchendon	\$176,245

# GREEN COMMUNITY DESIGNATIONS REACH ONE HUNDRED EIGHTY-FIVE



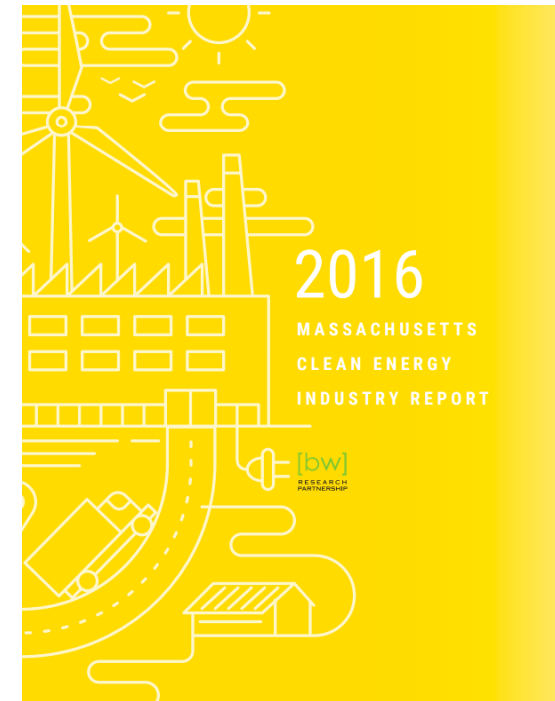
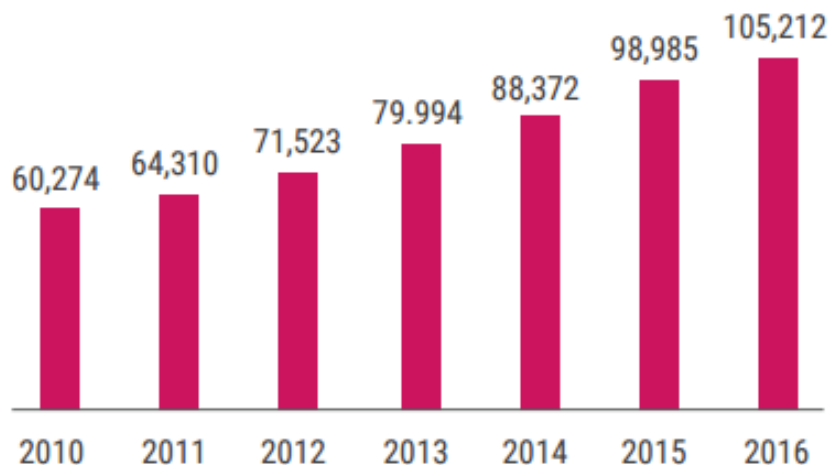
J.Pfister, 1-10-17

20  
Miles

# Clean Energy Employment

- [MassCEC 2016 Clean Energy Industry Report](#)

- **105,212 clean energy jobs** across Massachusetts



- # of clean energy jobs **up 75% since 2010**
  - Almost **45,000 more** clean energy workers in the Commonwealth today than six years ago
- Clean energy jobs in MA **grew by 6%** in past year and represent **2.5%** of MA economy

*Creating A Clean, Affordable and Resilient Energy Future For the Commonwealth*

**DDER**

Massachusetts Department  
of Energy Resources

# Electric Vehicle Promotion Legislation

- ***An Act Promoting Zero Emission Vehicle Adoption signed 1/13/17***
  - Prohibits owners of public charging stations from charging users a subscription or membership fee
  - Tasks DOER and MassDOT to study state fleet electrification opportunities and file a report by 10/1/17
  - Tasks MassDOT and EEA to study feasibility of levying surcharges on ZEVs to offset gas tax revenue losses by 12/1/17
  - Authorizes BBRS to work with DOER on regulations for ZEV charging stations for residential and commercial buildings
  - Tasks DOER to adopt interoperability billing standards for charging stations (effective 1/1/18)

[Press Release](#)

# Advancing Commonwealth Energy Storage (ACES) grant program

The Massachusetts Clean Energy Center (“MassCEC”) seeks applications under the Commonwealth’s Energy Storage Initiative for energy storage demonstration projects that *pilot innovative, broadly replicable energy storage use cases/business models with multiple value streams in order to prime Massachusetts for increased commercialization and deployment of storage technologies*. Successful applicants will propose projects that showcase examples of future storage deployment in Massachusetts, help to grow the state’s energy storage economy, and contribute to Massachusetts’ continued clean energy innovation leadership

- Total of \$10M available with awards between \$100k and \$1.25M
- Anticipate 10-15 awards
- Awards up to 50% of total -- minimum 50% cost-share
- Eligible applicants: public & private entities, encourage utility role
- Proposals due 6/9/17 by 4pm

[DOER ACES webpage](#)

# Solar Updates

# SREC II Extension

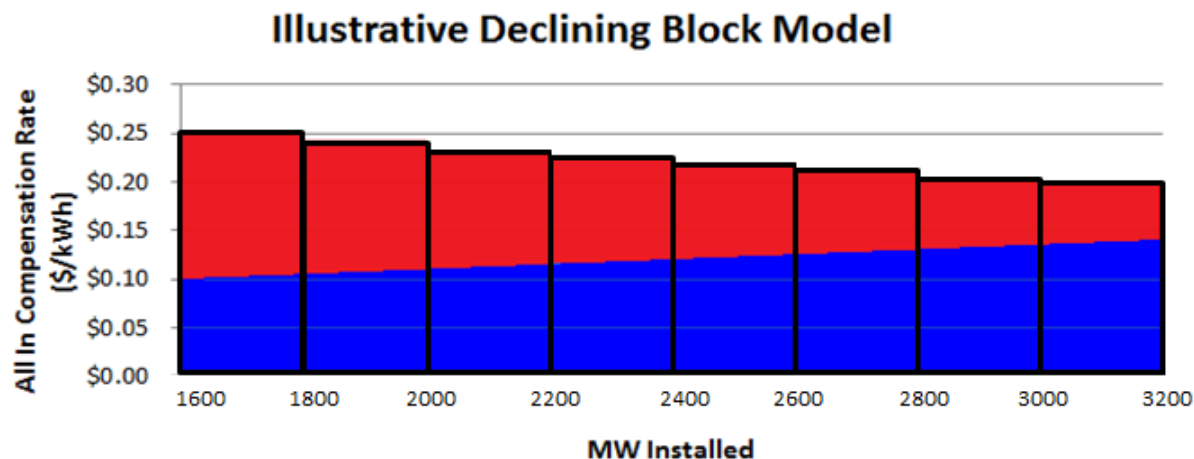
- Deadline for SREC II eligible projects > 25 kW DC seeking an extension through May 8, 2017 has now passed
- To eliminate gap between programs, new **extensions for good cause** available to any facility that has not already secured an extension
  - Construction deadline for all facilities extended to March 31, 2018
  - To secure, project owners must submit (or resubmit) [Statement of Qualification application](#) and [Good Cause Extension form](#) provided on DOER website
  - Extension for good cause granted at further reduced SREC factor
  - [SREC Factor Guideline](#) to be updated to reflect these changes

Market Sector	SREC Factor
A	0.7
B	0.6
C	0.55
Managed Growth	0.5

# Next Generation Solar Incentive

**Solar MA Renewable Target (SMART)** – a *long-term, stable and sustainable solar program for the Commonwealth*

- 1,600 MW AC declining block tariff program
- Same compensation rates across state (for all investor-owned utilities)
  - Rate declines by set percentage after each “block”
- Base compensation rate and term based on project size
  - Small projects: 10 year term; large projects: 20 year term
- Compensation structure varies based on whether project is behind-the-meter and standalone systems
- Policy-, location- and off-taker based adders that can be aggregated
- Maximum project size of 5 MW per parcel



# Additional Program Features

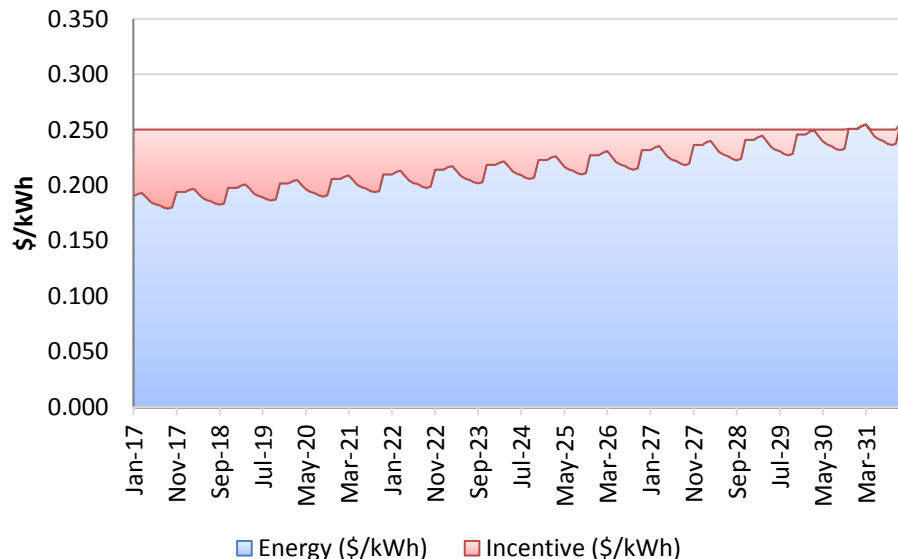
- Initial competitive procurement for 100 MW of projects > 1 MW each will establish base compensation rate
  - DOER will establish two ceiling prices:
    - A \$0.15/kWh price for projects sized between 1 and 2 MW; and
    - A \$0.14/kWh price for projects sized larger than 2 MW
- Eligible projects may receive compensation for energy through one of three mechanisms:
  1. Net metering
  2. On-bill crediting (new option)
  3. Buy-all, sell-all rate for standalone facilities

Capacity Based Compensation Rates (kW AC)			
Generation Unit Capacity	Capacity Based Rate Factor (% of Clearing Price)	Capacity Based Rate (\$/kWh)	Term Length
Low income less than or equal to 25 kW AC	230%	\$0.3450	10-year
Less than or equal to 25 kW AC	200%	\$0.3000	10-year
Greater than 25 kW AC to 250 kW AC	150%	\$0.2250	20-year
Greater than 250 kW AC to 500 kW AC	125%	\$0.1875	20-year
Greater than 500 kW AC to 1,000 kW AC	110%	\$0.1650	20-year
Greater than 1,000 kW AC to 2,000 kW AC	100%	\$0.1500	20-year
Greater than 2,000 kW AC to 5,000 kW AC	TBD	<=\$0.1400	20-year

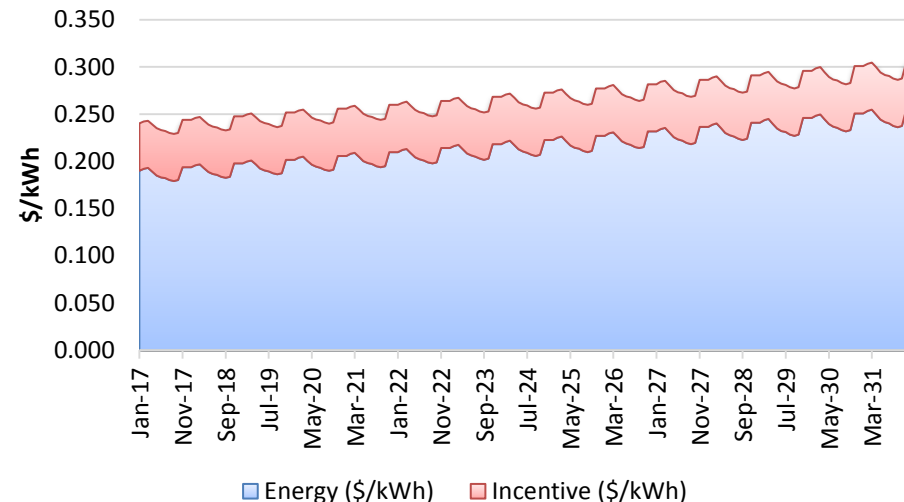
# Additional Program Features

- Standalone and Behind-the-Meter systems will have their incentives calculated using different methodologies
- Greenfield “subtractor” applied to the compensation rate of any open space project that does not meet criteria
- Energy storage adder variable based on the ratio of storage capacity to solar capacity as well as the duration of the storage

**20-year NEM Medium System (25-250 kW) Payments (Standalone)**



**20-year NEM Medium System (25-250 kW) Payments (Behind-the-Meter)**



# Adder Values

All adder values will decline by 4% per capacity block

Location Based Adders	
Type	Adder Value (\$/kWh)
Building Mounted	\$0.02
Brownfield	\$0.03
Landfill	\$0.04
Solar Canopy	\$0.06

Off-taker Based Adders	
Type	Adder Value (\$/kWh)
Public Entity	\$0.02
Community Shared Solar (CSS)	\$0.05
Low Income Property Owner	\$0.03
Low Income CSS <sup>1</sup>	\$0.06

1. Must be at least 50% R-2 customers

Solar + Energy Storage	
Type	Adder Value (\$/kWh)
Storage + PV	Variable

# Additional On-bill Crediting Option

- Offered as alternative to net metering (only for SMART projects)
- Must be established via a DPU approved process
  - Filed by the distribution companies in parallel to incentive program rulemaking
- Compensation rate for exported energy would likely be set at basic service rate

## Benefits:

- Single rate for all facilities
- Allows credits to be transferred to off-takers w/out net metering
- No caps (overall or 10 MW public)
- No single parcel rule
- Fewer limitations regarding off-takers and streamlined administrative process

# Anticipated Timeline

- **January 2017:** DOER releases final program design
- **April 2017:**
  - DOER files emergency regulation
  - Public hearing and comment period on regulation
- **July 2017:** DOER promulgates final regulation
- **August 2017:**
  - Distribution companies file with DPU, issue RFP for Block 1 procurement, and issue RFP for Solar Program Administrator
- **September 2017:**
  - Competitive procurement results announced, compensation rates established
  - Solar Program Administrator selected
- **Winter/Spring 2018:**
  - DPU approves distribution company filing
  - Program goes into effect

**Note: Timeline is illustrative. All dates are subject to change.**

# SMART: Informational Webinar for Public Entities

- Solar Incentive Program Webinar for Public Entities
  - **Friday (tomorrow)**  
**3/24 at 11am**
- Registration link sent to LBE list





# Better Buildings Challenge Swap Video

- [https://youtu.be/jDU68Jt\\_PUU?t=1m54s](https://youtu.be/jDU68Jt_PUU?t=1m54s)
- <https://youtu.be/GLTqWyCLG-8?t=35s>

Video 1: Until 6:50

Video 2: Until 6:10

# LBE Updates

# Solar Canopy Progress

UMA Lot 44 – 2.5MW



UMA Lot 25- 1.9MW



Bristol CC- 3.2 MW



UMA Visitors Center – 292kW



DCR Walden Pond – 100kW



UML – 200kW



Roxbury CC- 937kW

# LBE Solar Canopy Program

- Currently **9.2MW** of solar canopies installed at state facilities (out of **21.1MW** total solar)
- December 2016 awarded grant:
  - \$245,000 to MassDOT for 490kW solar canopy
  - Two Level-II dual-head EV charging stations
  - No up-front cost to MassDOT, third-party PPA
- Upcoming 2017 Grant Program
  - Estimated release date: late April/early May 2017
  - Varying incentive levels for owned, PPA, innovative technology

# LBE Tracking Form Status

Thanks to everyone who has submitted their FY16 LBE Tracking Form!

Dept. of Correction	Greenfield CC	Dept. of Fire Services
Trial Courts	Massasoit CC	Bridgewater State Univ.
MassPort	MassBay CC	Fitchburg State Univ.
MWRA	Mount Wachusett CC	Framingham State Univ.
Bristol CC	North Shore CC	MassArt
Bunker Hill CC	Quinsigamond CC	Mass. College of Liberal Arts
Cape Cod CC	Springfield Tech. CC	Mass. Maritime Academy
Westfield State Univ.	UMass Amherst	Salem State Univ.
Worcester State Univ.	UMass Lowell	UMass Boston
Roxbury CC	UMass Medical	UMass Dartmouth

# Upcoming Programs

## To be released Spring 2017

- Resiliency Study at 12 HHS facilities
- Solar canopy grants with SRECI extension
- Clean vehicle grants
- Feasibility study grants

## Future Programs

- Solar canopy grants with SMART Incentives
- Renewable thermal grants
- GHG emission reduction innovative strategies grants

# EV Charging Stations on Contract

	Location	Charging Station Levels	Software	Billing Services	Site Assessment	Installation	Servicing
Clipper Creek	CA	1,2					
EVSE LLC	CT	1,2	✓	✓	✓	✓	✓
Graybar Electric Company	MA	2	✓	✓	✓		
LiquidSky Technologies	MA	2			✓	✓	✓
Verdek	CT	1,2, DCFC	✓	✓	✓	✓	✓
Voltrek, LLC	MA	1,2,DCFC	✓	✓	✓	✓	✓

# Upcoming Meetings/Events/Conferences

- April 28 – Roxbury Community College solar canopy ribbon-cutting (Boston)
- May 9 - LBE Council - Division of Fisheries and Wildlife Field Headquarters (Westborough)
- July 11 - LBE Council - Massasoit Community College (Brockton campus)
- November 8-10 – USGBC Greenbuild (Boston)
- **Earth Week/Day event plans**